

Work Order ID 135168

July 31, 2015 3:26:56 PM

Page 1

A.P.
15.06.10 *135168*

WIR

Accept

Item ID: D350-748-243TRN

Revision ID:

Item Name: Crosstube Installation, High Aft

N9000040100

Setup Start *NS1*

Stop *NS2*

Start Date: 7/31/2015 Start Qty: 1.00

1

Required Date: 8/14/2015 Req'd Qty: 1.00

1

Cust Item ID:

Customer:

Reference:

Approvals: Process Plan: *SA*

Date: 20150731 Tooling:

Date:

Run Start *NR1*

QC:

Date: 20150731 SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D350-748-243	A

100 0.00

100

Mori Seiki

Mori Seiki CNC Lathe Large

MORI SEIKI CNC LATHE LARGE

Memo

0.03

1-Fill tube with sand & install plugs on both ends as per Folio _____

2-Turn first side as per Folio _____

3- File transition lines smooth.

FOLIO REV: *AA*

DWG REV: *A*

1 *Φ*
mm
15/08/14

110 QC1- Inspection performed by CMM 0.00

110

QC

Quality Control

Memo

0.00

1 *Φ*
mm
15/08/17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>135168</u>		DISPOSITION		AGAINST DEPARTMENT/PROCESS			
Part No. _____		Rework ☒		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐
NCR No. _____		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐
		Use-as-is ☐		Thermoforming ☐	Finishing ☒	Rec/Store/Packaging ☐	Other ☐
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐	
Date : <u>15.08.10</u>		Step #:		QTY Effective :			MRB (QSI042) Approval <u>A.P.</u>
Description Work Order Deviation				Disposition			<u>15.08.10</u>
Apply Axalta 13205 & Metalok 230S per manufacturer's instructions prior to paint NOT APPLICABLE A.P. 15.08.10				ACCEPTABLE PER TESTING BY C.P.			Completed By
							Lead hand / Supervisor Approval Verification
							QC / QA Coordinator Approval
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Setup ☐ Equip/Tooling ☐ Supplier ☐ Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐				FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Power Loss/Surge ☐ Positioned Wrong ☐ Bending ☐ Set-up ☐ Folio/Program ☐ Outside Dimensions ☐ Centre Not Concentric ☐ BOM/Route ☐ Grain ☐ Over/Under tolerance ☐ Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Part Incorrect ☐ Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled ☐ Part Lost/Missing ☐ Cuffs ☐ Contamination ☐ Out of Sequence ☐ Part Moved ☐ Crushing ☐ Countersink ☐ Off-set ☐ Drawing ☐ Heat Treat ☐ Cut Too Short ☐ Mislabeled ☐ Finish ☐ Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Fit/Function ☐ Misread ☐ Marks/Chatter ☐ Drill Holes ☐ Misaligned/off center ☐ Turning Sequence ☐			
OTHER : _____							

Work Order ID 135168

July 31, 2015 3:26:56 PM

135168

Page 2

Item ID: D350-748-243TRN

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Installation, High Aft

Start Date: 7/31/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/14/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

120

0.00

120

MORI SEIKI CNC LATHE LARGE

Mori Seiki

Memo

0.05

Mori Seiki CNC Lathe Large

1-Turn second side as per Folio _____
2- File transition lines smooth.
3-Scribe Part & Batch as per Dwg D350-748-143
FOLIO REV: 1/3
DWG REV: 2

1 0
mml
15/08/18

130

0.00

130

QC1- Inspection performed by CMM

QC

Memo

0.00

Quality Control

1 0
mml
15/08/19
P.T.O.
FIDAB Page 1.

140

0.00

140

QC8- Inspect parts - second check

QC

Memo

0.00

Quality Control

1 0
47
9-89
15-09-16

DQA:

Date: 15/09/28

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: ~~PCN~~

Date: 15/09/22

Work Order update only ☐

Work Order: <u>135168</u> Part No. <u>D310-748-2Y3TRN</u> NCR No. <u>15-5358</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☒ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐							
Date: <u>15/9/3</u>	Step #: <u>130</u>	QTY Effective: <u>①</u>	MRB (QS1042) Approval DAS 12 15/9/3 9-89						
Description Work Order Deviation		Disposition		Completed By DAS 47 15-09-09 9-89					
Wall thickness measurement is over tolerance.		Acceptable. Min wall is within 0.020 of avg nominal.		Lead hand / Supervisor Approval Verification DAS 9 47 15-09-09 9-89					
QC / QA Coordinator Approval DAS 9 15-09-09 9-89									
Root Cause <table style="width:100%;"> <tr> <td style="width:50%;"> Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☒ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ </td> <td style="width:50%;"> No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐ </td> </tr> </table>		Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☒ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	FAULT CATEGORY <table style="width:100%;"> <tr> <td style="width:33%;"> Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ </td> <td style="width:33%;"> Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ </td> <td style="width:33%;"> Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ </td> </tr> </table>			Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☒ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐								
Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐							
OTHER: ☐									

Work Order ID 135168

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135168

Page 3

Item ID: D350-748-243TRN

Accept

N1900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Crosstube Installation, High Aft

Start Date: 7/31/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 8/14/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150		0.00							
150	Large Fab								
Crosstubes	Memo	0.02							
Crosstubes	1-Grind machining marks								
190		0.00							
190	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and stock in kanban rack Location: <u>29003</u>								
200		0.00							
200	QC21- Final Inspection - Work Order Release								
QC	Memo	0.02							
Quality Control									

BL 15/09/17

BL 15/09/17

MCS SEP 21 2015

MCS SEP 21 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

July 31, 2015 3:27:02 PM

Page 1

Work Order ID: 135168

135168

Parent Item: D350-748-243TRN

D350-748-243TRN

Parent Item Name: Crosstube Installation, High Aft

Start Date: 7/31/2015

Required Date: 8/14/2015

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev: PRELIM New Issue LL 12.05.08

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D6021-125		Manufactured	No				Each	103.0000		1			
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D6021-125

Crosstube Material - 17-4Ph SS

Location

Loc Qty

Loc Code

HALL

71

127271

35

127272

16

85076

20

LG

32

127272

32

1 mmv 15/08/13

Item	Qty -243	Part Number	Description
1	X	D350-748-243	CROSSTUBE ASSEMBLY (AS 350/355 HI AFT)
2	1	D6021-125	CROSSTUBE
3	2	D3502-1	SUPPORT
4	2	D5123-7	CLAMP CUSHION
5	1	AETC-1032	INSERT
6	2	MS21920-20 OR MS21920-21/-22	CLAMP (PER DART SPEC. M-MS21920-20/-21/-22)
7	1	NAS1149C0363R	WASHER (OR AN960C10)
8	1	NAS1635-3-8	SCREW (OR MS51958-63)
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6021-125
FINISHED LENGTH AFTER TURNING = 124.70±0.06 (AFTER BENDING/TRIMMING = 122.70 REF)
- 2) FINISH: PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCE: PER DART QSI 018 UNLESS OTHERWISE NOTED.
WALL THICKNESS ECCENTRICITY PER DART QSI 038 7.2
MIN. ALLOWABLE WALL IS -0.020 FROM NOMINAL
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: DART PART NUMBER "D350-748-243" AND BATCH NUMBER ON INSIDE OF CUFF
PER DART QSI 044 6.4 (VIBRATING STYLUS)
- 7) WEIGHT: 29.85 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE, EXCEPT FOR Ø0.290 HOLE.
- 9) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE. WHEN DRILLING HOLES EXTREME CARE MUST BE TAKEN AND CAREFUL DEBURRING PERFORMED TO ENSURE A CLEAN HOLE WITH NO CRACKING/CHIPPING/GROOVES.

TURNING

- 10) BLEND OUT ALL EDGES FROM MACHINING LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH. NOTE: ALL HOLES ARE DRILLED AFTER BENDING.

BENDING

- 11) BEND PROGRESSIVELY WITH A MINIMUM OF 7 PASSES PER SIDE. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D. ON TOP HALF OF BEND, AND 8% ON BOTTOM HALF OF BEND.
- 12) MAX AMPLITUDE OF RIPPING ALONG BENT PORTION OF THE TUBE IS 0.030 (ZN A1-3)
- 13) MAX TWIST: WITH XTUBE LAYED FLAT ON SURFACE, THE DIFFERENCE BETWEEN CUFF HEIGHTS FROM THE SURFACE MAY BE NO LARGER THAN 0.38 (ZN C1-3).

ASSEMBLY

- 14) TO INSTALL D3502-1 SUPPORT: ABRASE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.02" TO 0.05" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.
- 15) TORQUE CLAMPS 60 TO 80 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.

20150807

SH 135168

RELEASED

2015 MAR 18

ECN 15-547

UNDER REVIEW

15/14/15
LRF 15-161

A	NEW ISSUE	CP	15.01.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AP		
DRAWN	AP		
CHECKED	AP		
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	15.01.21		

DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWING NO. D350-748-243	REV. A SHEET 1 OF 4
TITLE CROSSTUBE (AS 350/355 HI AFT)	SCALE NTS
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8 7 6 5 4 3 2 1

D

C

B

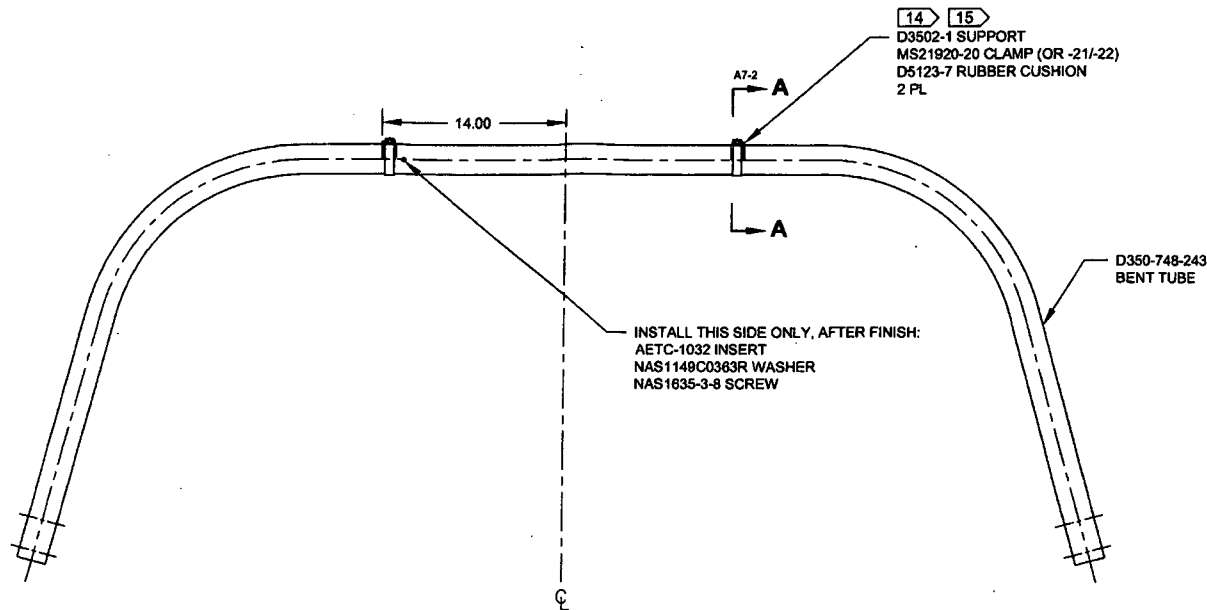
A

D

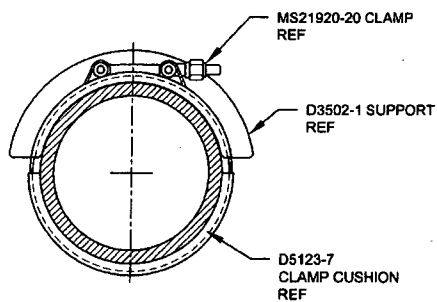
C

B

A



**D350-748-243
ASSEMBLY DETAIL**



SECTION A-A D4-2
SCALE 6X

UNDER REVIEW

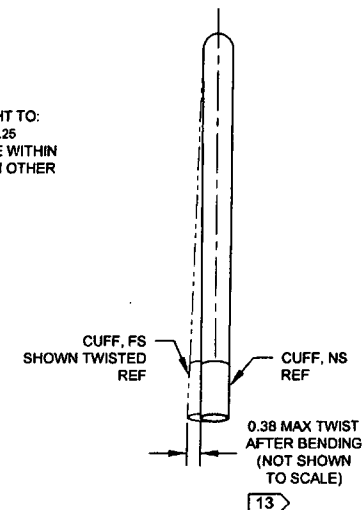
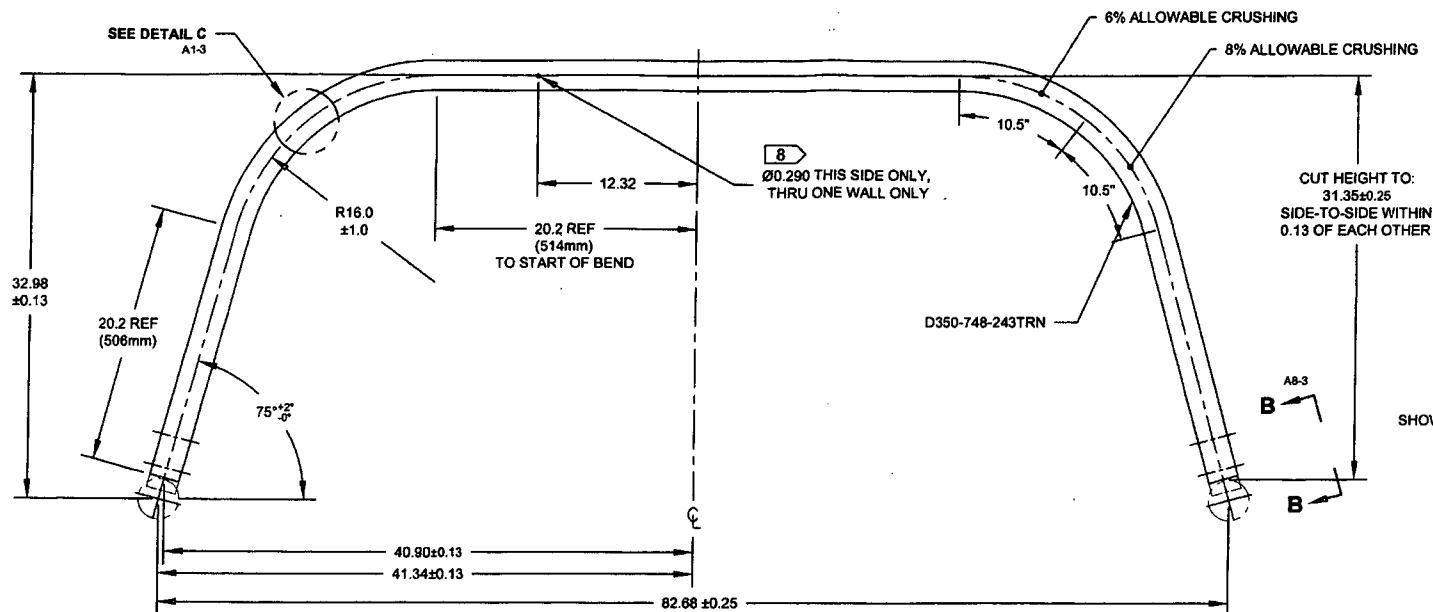
15/4/22

RELEASED

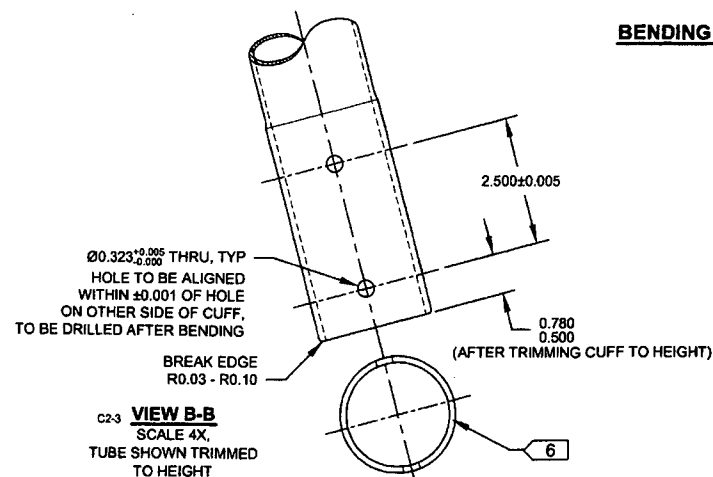
2015 MAR 18

DESIGN	92	DART AEROSPACE LTD	
DRAWN	92	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. A
MFG. APPR.	2/4/22	D350-748-243	SHEET 2 OF 4
APPROVED	2/4/22	TITLE	SCALE
DE APPR.	2/4/22	CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	15.01.21	COPYRIGHT © 2015 BY DART AEROSPACE LTD	
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8 7 6 5 4 3 2 1



D350-748-243
BENDING AND DRILLING DETAIL 11

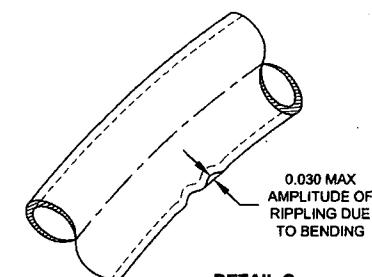


C2-3 **VIEW B-B**
SCALE 4X,
TUBE SHOWN TRIMMED
TO HEIGHT

RELEASED
2015 MAR 18

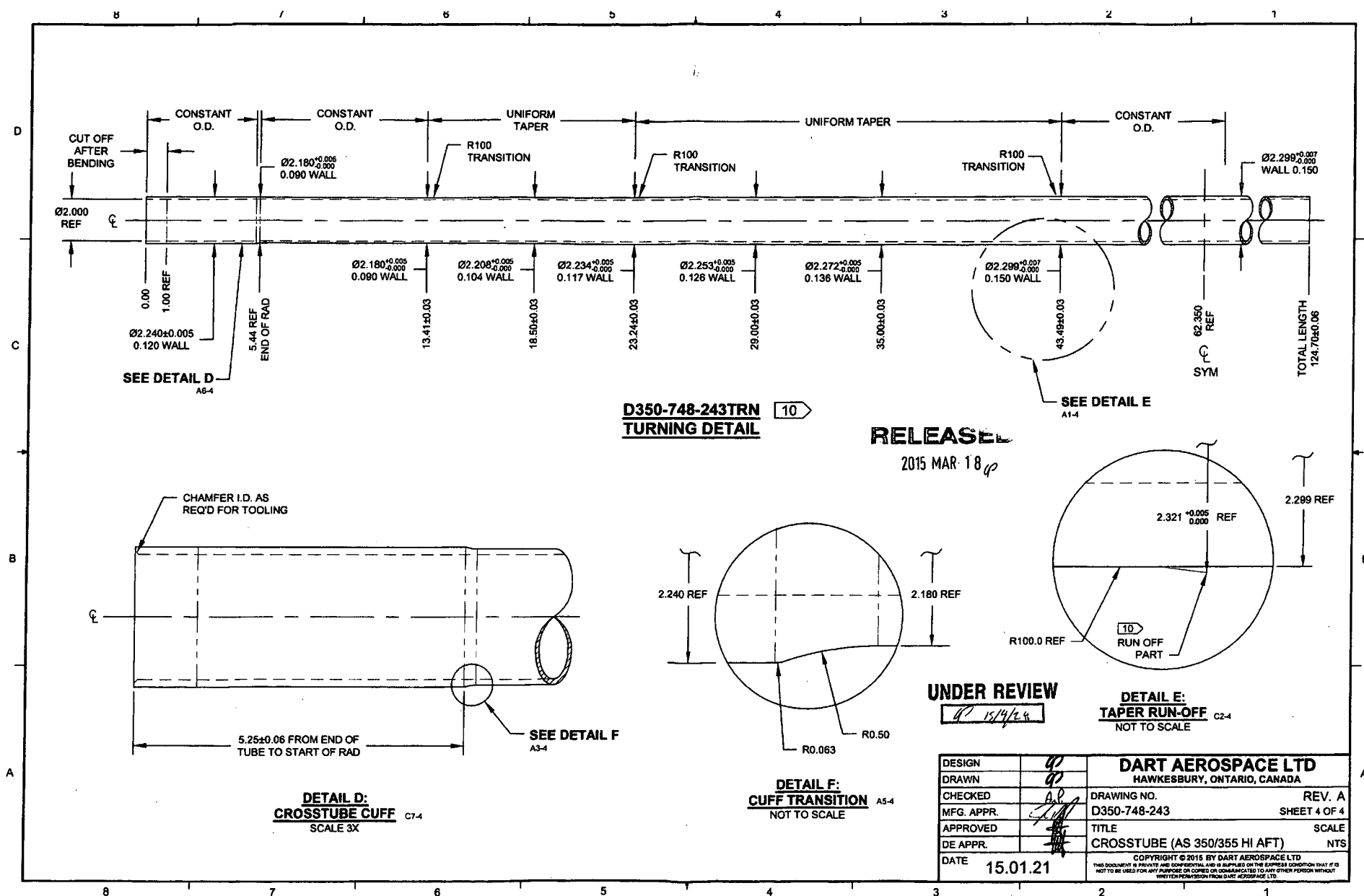
UNDER REVIEW

15/14/20



DETAIL C D7-3
SCALE 4X
RIPPING EXAGGERATED

DESIGN	97	DART AEROSPACE LTD	
DRAWN	97	HAWKESBURY, ONTARIO, CANADA	
CHECKED	A.P.	DRAWING NO.	REV. A
MFG. APPR.	<i>[Signature]</i>	D350-748-243	SHEET 3 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	CROSSTUBE (AS 350/355 HI AFT)	NTS
DATE	15.01.21	COPYRIGHT © 2016 BY DART AEROSPACE LTD	
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DART AEROSPACE LTD		Work Order:	135168
Description: Crosstube Assembly (AS350/355 High Aft)		Part Number:	D350-748-241
Inspection Dwg: D350-748-241 Rev: <i>NA mmL</i>		Page 1 of 2	

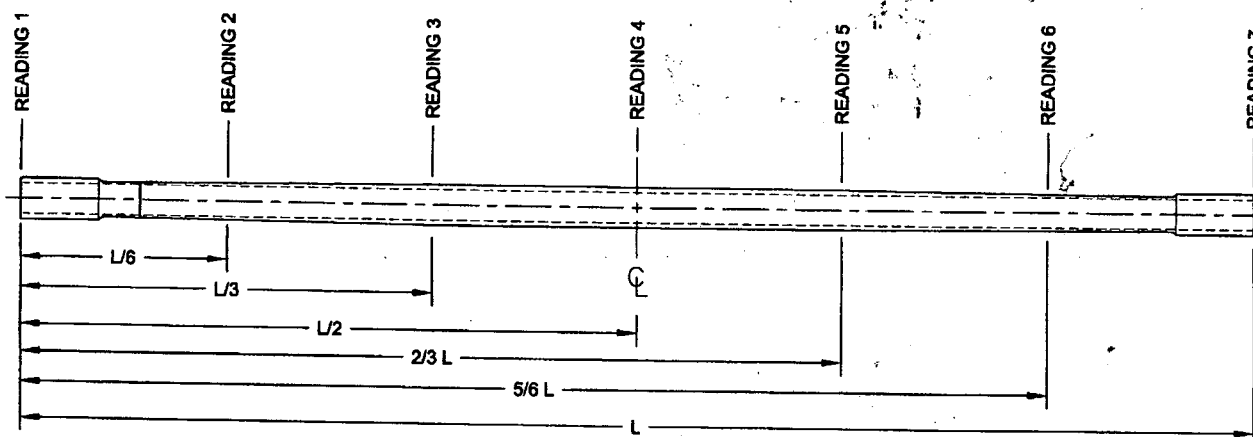
243
mmL

FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.245	✓		VLM	CNC-08
	2.180	+0.005/-0.000	2.184	✓			
	2.180	+0.005/-0.000	2.182	✓			
	2.208	+0.005/-0.000	2.211	✓			
	2.234	+0.005/-0.000	2.236	✓			
	2.253	+0.005/-0.000	2.254	✓			
	2.272	+0.005/-0.000	2.276	✓			
	2.299	+0.005/-0.000	2.303	✓			
	0.063	+/-0.010	0.063	✓		VLM	CNC-08
	5.25	+/-0.060	5.26	✓		"	
	R0.063	+/-0.010	0.063	✓		R6	
	R0.50	+/-0.030	0.500	✓		"	
SIDE B	2.240	+0.005/-0.000	2.245	✓		VLM	CNC-08
	2.180	+0.005/-0.000	2.185	✓			
	2.180	+0.005/-0.000	2.184	✓			
	2.208	+0.005/-0.000	2.211	✓			
	2.234	+0.005/-0.000	2.236	✓			
	2.253	+0.005/-0.000	2.254	✓			
	2.272	+0.005/-0.000	2.276	✓			
	2.299	+0.005/-0.000	2.303	✓			
	0.063	+/-0.010	0.063	✓		VLM	CNC-08
	5.25	+/-0.060	5.26	✓		"	
	R0.063	+/-0.010	0.063	✓		R6	
	R0.50	+/-0.030	0.500	✓		"	
	124.70	+/-0.060	124.70	✓		Tap	LC-11

DART AEROSPACE LTD		Work Order: 135168
Description: Crosstube Assembly (AS350/355 High Aft)		Part Number: D350-748-241
Inspection Dwg: D350-748-241 Rev: H <i>A MAIL</i>		Page 2 of 2

WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation Δw (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L = 0"	.139	.127	.122	.133	.017	0.030"
READING 2 L = 21	.143	.107	.095	.125	<.048>	
READING 3 L = 42	.162	.157	.149	.155	.013	
READING 4 L = 62	.160	.161	.159	.158	.002	
READING 5 L = 83	.153	.143	.157	.172	.029	
READING 6 L = 104	.098	.106	.140	.136	<.042>	
READING 7 L = 124	.126	.128	.134	.134	.008	

Dug A

0.111 0.06

0.111 0.013

Calibration Result

DAS
47

Actual Block Thickness: *.100 .500*

Sitescan 250 Measured Thickness: *.500 .500*

Measured by: <i>MAIL</i>
Date: <i>15/08/19</i>

Audited by: 9-89
Date: <i>15-09-16</i>

Preliminary Approval:
Date:

Rev	Date	Change	Revised by	Approved
B	12.02.02	Dwg Rev updated (P/O D350-748-201)	KJ	
C	12.06.04	Wall thickness form added	KJ	
D	13.02.27	Dimension 5.25 was 4.26	KJ	
E	14.04.25	122.70 dimension revised to 124.70	KJ	
F	15.04.14	Dwg Rev updated	KJ	<i>[Signature]</i>